WAGE AND PRESTIGE RETURNS FOR MEXICAN AMERICAN WORKERS BASED ON EDUCATION

A Thesis

by

MISAEL OBREGÓN

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

December 2007

Major Subject: Sociology

WAGE AND PRESTIGE RETURNS FOR MEXICAN AMERICAN WORKERS BASED ON EDUCATION

A Thesis

by

MISAEL OBREGÓN

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Approved by:

Chair of Committee,	Rogelio Saenz
Committee Members,	Edward Murguía
	Marco Portales
Head of Department,	Mark Fossett

December 2007

Major Subject: Sociology

ABSTRACT

Wage and Prestige Returns for Mexican American Workers Based on Education.

(December 2007)

Misael Obregón, B.S., Texas State University – San Marcos

Chair of Advisory Committee: Dr. Rogelio Saenz

The thesis compares education attainment levels and the returns of education investments of three native-born ethnic groups, Mexican Americans, non-Hispanic whites, and African Americans. Using two ordinary least square (OLS) regression models and data from the 2000 5% Public Use Microdata Sample (PUMS), the analysis determines if lower levels of earnings and occupation prestige status among native-born Mexican Americans are the result of low levels of education or are attributed to lower returns on their education. The first model compares income earned across the ethnic groups while the second model compares occupational prestige status across the three groups. The study shows that Mexican Americans continue to have the highest levels of high school dropouts and as a whole continue to lag behind whites in education attainment especially among the higher levels of education beginning at the college degree level. However, the results from the multiple linear regression analyses provide a positive outlook for Mexican Americans who attain higher levels of education receiving comparable or greater returns on their human capital investments. First, the results suggest that any additional year(s) of education attainment above a high school diploma provides greater returns for Mexican Americans given the anemic state of higher

education levels for this ethnic group. Second, attaining a college degree has the greatest effect on labor market outcomes. Finally, the results do provide empirical evidence of structural discrimination especially in the case of African Americans with respect to income earned. In addition, at the professional degree attainment level whites receive greater returns in income despite having the same level of education and occupation prestige status when compared to Mexican Americans and African Americans.

DEDICATION

Para mis padres, Rosa y Guillermo Javier Obregón

ACKNOWLEDGMENTS

I would like to express my gratitude to many individuals who made this thesis possible. First, I would like to thank my committee starting with Dr. Rogelio Saenz who served as my committee chair. Dr. Saenz provided the direction and methods which turned this thesis from talking points to research. His advice and support for this thesis and my studies here at Texas A&M have been a driving force in the completion of this project. I would also like to thank Dr. Edward Murguía and Dr. Marco Portales who provided valuable theoretical, analytical work, and mentorship. I am also grateful to Dr. Murguia who provided a research assistant position for me. Working under his direction has provided me with many wonderful opportunities.

In respect to moral support in the completion of this graduate degree I have many people to thank. There are countless individuals who have helped and guided me along my education path at the different institutions that I have attended from grade school to Texas A&M University. These include professors, instructors, and the many staff members who make it possible for students to achieve their academic goals. In addition, throughout my studies I have met some of my closest friends like Warren Waren, Glynis Christine, Victor Garay, and Santiago Cruz. They have encouraged and supported me and I only wish I can return the favor to them. I recognize that of the many folks that have been there for me I have mentioned only a few. Because I believe that it takes a village to raise a child and because I am a child of many villages, I hope that other wonderful individuals that have gone unnamed will recognize their contributions as I mention to them their participation in this completed work.

Finally, with wholehearted gratitude I acknowledge and thank my entire and growing beloved family. I recognize that I am blessed to have Ismael, Javier, Ruben, Saul, David, Myriam, and Abraham as a small and close knit immediate family. They and their respective families are at the heart of my interests. I am indebted to my entire family for their support which motivates me to go forth. Having said this I would like to thank Blanca, my loving wife who has sacrificed much of her time, career, and my personal attention in this endeavor. Also, my son Lucas who has changed my life for the better and has brought balance and new perspective in my life. A very special thank you is deserved to my sister Myriam who made it possible for me to give my full attention to this thesis while she watched vigilantly after Lucas. Most importantly, I acknowledge my parents Rosa and Guillermo Obregón. I dedicate this thesis to them because they believe in the potential of their children and we owe all of our accomplishments to them. Their personal sacrifice and loss of opportunities to raise us have created the many opportunities we now have. They are exemplary parents; gracias mamá y papá.

TABLE OF CONTENTS

Page

ABSTRACT…….. iii

DEDICATION……..... v

ACKNOWLEDGMENTS……..... vi

TABLE OF CONTENTS……...…….... viii

LIST OF FIGURES…….. x

LIST OF TABLES…… xi

CHAPTER

I INTRODUCTION.……... 1

II LITERATURE REVIEW.…… 7

Human Capital Theory..…… 8
Segmented Labor Perspective.…….…… 10
Discrimination Perspective……... 13

III DATA AND METHODS …… 17

Data Sources and Measures.…..... 17
Dependent Variables.…… 18
Independent Variables.……. 19
Control Variables.……. 20
Statistical Procedures and Analytical Plan ……..... 21

IV RESULTS……. 26

Descriptive Statistics and Results.…… 26
Regression Results.……... 33
Male wages and occupational prestige.…… 33
Female wages and occupation prestige.…… 41
Examination of Lower Returns to Human Capital for Mexican Americans.……. 46

V CONCLUSION……. 51

Page

REFERENCES……. 58

Supplemental Readings……. 62

VITA……. 64

LIST OF FIGURES

FIGURE Page

1 Percent Distribution of Highest Level of Education Attainment for Males by Ethnic Group……..... 27

2 Percent Distribution of Highest Level of Education Attainment for Females by Ethnic Group…… 28

LIST OF TABLES

TABLE Page

1 Description and Measurement of Variables Used to Determine Wage and Prestige Returns Based on Education for Mexican American Workers in 1999 Using 2000 Census, 5 Percent PUMS……. 23

2 Descriptive Statistics of Variables Used in the Analysis by Gender and Ethnicity (N = 4,436,115)……. 32

3 Multivariate Regression Results of the Log of Hourly Wage Model: Comparing Returns on Education for Male Workers in 1999…….……. 35

4 Multivariate Regression Results of the Occupational Prestige Model: Comparing Returns on Education for Male Workers in 1999…….. 39

5 Multivariate Regression Results of the Log of Hourly Wage Model: Comparing Returns on Education for Female Workers in 1999……... 42

6 Multivariate Regression Results of the Occupational Prestige Model: Comparing Returns on Education for Female Workers in 1999……... 44

7 Test of Significant Difference in Returns on Education for Workers in Labor Market Outcomes: Earnings and Occupational Prestige Comparisons by Gender and Ethnicity in 1999……... 47

CHAPTER I

INTRODUCTION

Sociologists and economists have long examined the links between the accumulation of human capital and labor market outcomes. Much research has demonstrated that persons with greater levels of human capital (i.e., education, work experience, and skills) reap greater rewards in the labor market in the form of more prestigious and higher-paying jobs. The positive relationship between education and occupational prestige and income has been well documented in many studies. For example, Murphy and Welch (1989) found that individuals with a college degree earned higher wages than did those with merely a high school diploma, varying from 32 percent in 1979 to as much as 70 percent in 1986 (Murphy and Welch 1989). In addition, college graduates are better prepared and are able to compete for the more prestigious occupations when compared to persons with lower levels of education (Rumberger 1984). While the links between investments in human capital and labor market outcomes are well established, it is less clear whether the magnitude of this relationship is similar across racial/ethnic groups. This research compares labor market outcomes between three ethnic groups in the United States — native-born Mexican Americans, whites, and African Americans.

Of the three ethnic groups Mexican Americans, in particular, continue to lag significantly behind whites and many other minority groups on education and earnings (Saenz and Morales 2005). This study assesses whether the low levels of earnings and

---

This thesis follows the style of *American Sociological Review*.

occupational prestige among Mexican Americans merely 1) reflect their low levels of education or whether their earnings and occupation prestige are 2) attributed to lower returns to their education when compared to non-Hispanic whites.

The focus on Mexican Americans stems from their low levels of education and their rapid growth (Saenz and Morales 2005; Perez and De La Rosa 1993; Pachon and Moore 1981). Demographic trends demonstrate that people of Mexican origin represent the youngest and most rapidly growing population in the United States. This pattern is also indicative of the high levels of fertility among Mexican origin women (Saenz and Morales 2005; Perez and De La Rosa 1993). As a result, Mexican Americans will be disproportionately represented among new entrants to the labor force in the coming decades. Thus, it is imperative that we determine the extent to which they receive similar rewards to their human capital investments as do members of other racial and ethnic groups.

A significant amount of research on labor market outcomes by ethnic groups has compared foreign-born Mexican Americans to their native-born Mexican American counterparts, white and other ethnic groups in a variety of combinations (i.e., Saenz and Morales 2005; Bean and Stevens 2003; Trejo 2003; Mason 2001; Dodoo and Pinon 1994; Perez and De La Rosa 1993; Borjas 1987; Tienda 1983; Pachon and Moore 1981; Chiswick 1978, 1977). Yet it is important to note that not all ethnic groups, especially foreign-born individuals, can compete for the same occupations. First, not all human capital attained from foreign lands is transferable to the U.S. Coupled with the inability to dominate the English tongue, foreign-born individuals may further diminish their

opportunities to participate on an equal plane as their native counterparts (Schmid 2001). As a result, foreign-born persons are likely to fare as well as their native-born peers. Therefore a more homogenous comparison between ethnic groups with equal access to opportunities is required. To provide an equal comparison of ethnic groups in this research, the study focuses on native-born Mexican Americans, native-born non-Hispanic whites, and native-born African Americans to ensure that the entire sample has equal access to legal working status and access to opportunities such as public schooling. Henceforth, in this study when the term Mexican American(s) is used, the study refers to U.S. native-born people of Mexican origin. In addition, when the terms white(s) and African American(s) are used, the study refers to non-Hispanic native-born whites and African Americans.

By looking at native-born individuals, the research includes at least three equalizing factors comprised in the labor market which will provide reliable comparative access to opportunities in labor market outcomes. First, under current U.S. law, native-born individuals are granted citizenship at birth. This permits any U.S.-born individual the inalienable right to the pursuit of life opportunities in this country. Second, the attainment of English as the dominant language is considered as part of the assimilation process. Research has shown that English proficiency as a first or second language increases by the second generation (Alba 1999; Warren 1996), i.e., children born in the U.S. of immigrant parents. In addition, English proficiency as a form of communication is seen as a predictor and a positive influence of occupational status and earnings regardless of ethnicity (Davila and Mora 2001; Trainer 1988) and is almost always

necessary for success in labor and educational attainment outcomes (Bean and Stevens 2003:147; Warren 1996:144). Finally, all native-born individuals have access to development of human capital hypothetically at equal starting points in education (specifically in the form of public education). As such, because native-born Mexican Americans, unlike those who are foreign-born, have wide access to human capital resources that enhance labor market outcomes, the analysis focus solely on native-born Mexican Americans in comparison to their white and African American counterparts.

American society places equality among its greatest ideals and views education as the primary vehicle for gaining access to the opportunity structures. However, Mexican Americans have for long not had equal opportunities in different spheres of life, including in the domains of education and the labor market (Espino and Franz 2002:620; Mason 2001:182; Raymond and Sensnowitz 1983:1123). This study seeks to determine whether or not they receive comparable returns to their education with respect to occupational prestige and earnings relative to whites and African Americans.

The study will make a couple of contributions to our understanding of the linkage between human capital and labor market outcomes. First, the human capital perspective implicitly assumes that there are no differences across racial and ethnic groups in the returns to education in the labor market. Yet, it continues to be the case that education and labor market outcomes are not evenly distributed across racial and ethnic groups (Barringer, et. al. 1990:40). This study provides an empirical test to this implicit assumption. Second, while much research has examined the association between education and earnings, little research has assessed the relationship between education

and occupational prestige. This study focuses on the relationships between education and both of these labor market outcomes.

The results of this study have implications for the discussion and formation of policies designed to equate social and economic opportunities across different segments of the nation's population. First, the results will demonstrate the returns to education attainment and if individuals with high levels of education experience commensurate or diminishing returns to their education. This would imply that other factors besides accumulation of education are needed to bring equality in the labor market. Second, the results will show the distribution of occupations across ethnic groups on average. This is done to test the equality of occupation distribution among the ethnicities across the same levels of education.

Data from the 2000 5% Public Use Microdata Sample (PUMS) will be used to conduct the analysis. Because of its large volume of observations, the PUMS data represent a useful data source for analyzing minority groups.

The thesis is compiled and presented in five chapters. The first chapter is an introduction of the study outlining the nature and significance of the study. Chapter I covers the scope for the comparison of the ethnic groups and how it relates to a homogenous comparison to determine the education costs of both ethnic groups. Chapter II provides the theoretical perspectives to be considered (i.e., human capital, segmented labor theory, and discrimination) and a review of the literature. Hypotheses are then drawn from these empirical and theoretical perspectives for the analysis of this thesis. Chapter III outlines the data and methodology for the study, including variables,

and statistical analyses to be used to test the hypotheses. Chapter IV covers the results and findings of the analysis. Finally, Chapter V provides concluding remarks and a discussion of the overall findings, the contributions to the field of sociology, policy implications, limitations of the study, and recommendations for future research.

CHAPTER II

LITERATURE REVIEW

Kalleberg and Sorensen (1979:351) define the labor market as the "arenas which workers exchange their labor power in return for wages, status, and other job rewards… [These arenas] refer broadly to the institutions and practices that govern the purchase, sale, and pricing of labor services." This implies that wages and rewards are distributed and determined by factors such as supply and demand of the workforce. Assumptions under "orthodox" and neoclassical labor theory believe the labor market to be perfectly competitive where equilibrium and utility maximization of occupations exist. This allows for the formulation of economic models and theories which lead to policy implications. In particular is the suggestion that education and training programs provide access to competitive occupations which in turn reduce poverty and inequality especially among minorities and less affluent people (Kalleberg and Sorensen 1979:354). However, even on a conservative stance, a competitive market with efficiency and equal distribution of jobs is hard to fathom, especially in a market where ethnic antagonism may rise with competing labor costs (Bonacich 1972). As a result, scholars have questioned and challenged the neoclassical and orthodox approach (Reich, Gordon and Edwards 1973), arguing that such approach simply does not take into account other structural factors (i.e., social, political, economic policies) to explain inequality and unemployment in the labor market (Sakamoto and Chen 1991). While it is unclear how the labor market will receive a growing number of minorities into the

labor force, we can speculate what returns are expected based on historical trends and their individual characteristics — in this case Mexican Americans.

To arrive at the education costs of the Mexican American worker, I provide a review of the literature and theories that will drive these findings. Although an extensive review would be beneficial to understand the complexities that go hand in hand when predicting labor market outcomes, this review looks at three determinants of labor market outcomes which particularly effect earnings and occupational prestige. First, I present a review of human capital and returns to education, followed by segmented labor theory and finally, discrimination.

Human Capital Theory

To explain and predict differences in occupations and earnings in the labor markets, sociologists and economists have relied on theories and models. Among these theories is human capital which may explain on a fundamental level the "basic features of the earnings determination" (Kalleberg and Sorenson 1979:362). At its initial stage, economists such as Jacob Mincer found that the deferment of income in lieu of training results in greater income returns in the long run. Thus, people with more training and education are likely to command more prestigious occupations along with higher wages (Mincer 1958:284-85). This concept asserts that individuals with higher levels of human capital have the potential to be more selective in their occupational outlook and thus increase their wages as well. Gary Becker, an economist, is among the most noted scholars linking human capital and labor market outcomes. Becker defines human

capital as the investments or "activities that influence future monetary and psychic income" for individuals (Becker 1964:1). Among these activities, Becker focuses on training such as educational attainment, as the primary investment in providing greatest returns including income, status, and psychological benefits (Becker 1964). Education attainment is thus used as the principal variable in the human capital model.

In the introductory chapter I provided a preview of education attainment levels or human capital for people of Mexican origin. Earlier discussion showed that Mexican Americans as a whole have the lowest levels of education among different racial/ethnic groups (U.S. Census Bureau 2000). Also, Mexican Americans continue to have the highest levels of high school dropouts when compared to whites and African Americans (Espinoza–Herold 2003). The likelihood of dropping out of high school increases further with Mexican Americans who are placed in vocational curriculum programs or tracks (Kao and Thompson 2003). Returns to these low levels of education confirm that earnings of Mexican Americans also suffer, having the lowest wages among minorities (Saenz and Morales 2005; Perez and De La Rosa 1993). Historically Mexican Americans have had intergenerational patterns of low levels of education (Chiswick 1977). Individual factors such as family income, family size, parental structure (Roscigno 2000), and deteriorative conditions caused by economic inequality and residential segregation have also affected education aspirations for Mexican Americans (Ainsworth-Darnell and Downey 1998). Nevertheless, for some second-generation Mexican Americans, there seems to be a slight increase in education attainment and earnings reflecting the advantages of human capital attainment of being raised and

educated in the U.S. (Trejo 2003). In this analysis I expect to find that Mexican Americans continue to lag behind educational attainment/human capital and consequently earnings as well, when compared to whites. A comparison of the two groups based on mean years of education and earnings will provide the difference in education attainment and returns for the groups.

In a competitive labor market, scholars have criticized the human capital approach as too simplistic to explain such variations in income inequalities especially among minorities who despite having comparable levels of education do not reach parity to whites in income (Barringer et al. 1990). Therefore, other factors such as selection and status of occupation should be considered in predicting labor market outcomes.

Segmented Labor Theory

A challenge to the neoclassical theory of the labor market and the accumulation of human capital is the assumption that individuals are not employed on the merit of their individual characteristics in a competitive market. Some scholars believe that structural forces within the labor market operate to perpetuate a division of labor among employees and occupations. Pioneering work done by Reich, Gordon and Edwards (1973) explain that separation or segmentation is characterized by differences in rewards for occupations. Segmented labor theory explains these differences in wage and status of occupations by dividing the labor market into sectors — primary and secondary sectors. Reich et al. (1973:359) define labor market segmentation as “the historical process whereby political-economic forces encourage the division of the labor market

into separate submarkets or segments, distinguished by different labor market characteristics and behavioral rules." Competition and the nature of a capitalistic approach in the labor market facilitate a continuing effect of this division of labor (Reich et al. 1973).

To distinguish a separation among workers and wage distributions, structural forces and employers seek to create and distinguish differences among workers such as education attainment, industries, race, sex, etc. In addition, conscious and systemic efforts to control workers are in place to further create a divide. Some of these efforts include the creation of unions to separate managers and factory or union workers. Corporations also add hierarchical and bureaucratic control with "job ladders" as entry level positions with the possibility for further promotions. Some of the "job ladders" require certification or higher levels of education. In essence, a degree or certification as training facilitates entrance and promotions into hierarchical positions. As a result school curriculums are developed to give students these skills to secure these job ladders, thus further perpetuating the distinctions between blue- and white-collar workers which eventually lead to a divide in the labor markets (Reich et al. 1973:359-63). In addition, these structural forces in place serve to keep undesirable applicants from applying for upper level positions by requiring certification or training of entry level positions or job ladders. Consequently, an individual may possess the skills for a particular position but without the "proper" training credentials (i.e., degree or certification) they are automatically disqualified at this initial point. Consequently, it becomes increasingly difficult for individuals beginning their careers in the secondary

sector to leave or be promoted to the primary sector (Kalleberg and Sorrensen 1979:370).

Segmented labor markets, or the "dual labor market" as it is sometimes referred, consists of two distinct sectors. The primary sector, also known as the "core sector," is characterized by high wages, good working conditions, possibility of autonomy and advancement, and employment stability with low turnovers. Secondary sector, or the "periphery sector" is characterized by low wages, poor working conditions, no autonomy, limited advancements, employment instability, and high levels of turnover (Beck, Horan and Tolbert 1980). It is evident that individuals working in the primary sector reap greater rewards. Additionally, human capital attainment generates greater returns in the primary sector than in the secondary sector (Kalleberg and Sorensen 1979). This includes minorities who do work in the primary sector where their returns are twice as large when compared to their secondary sector counterparts (Beck et al. 1980). However, scholars focusing on segmented labor theory also point out that structural factors in the labor market are affected by race, gender, and even geography (Beck, Horan and Tolbert 1980; Reich et al. 1973). These structural factors subsequently contribute to lower returns in human capital investments for those in the secondary sector (Beck, Horan and Tolbert 1980).

Research in labor market outcomes has found that minorities are more likely to work in the secondary sector (Reich et. al. 1973). In the case of Mexican Americans, this group is significantly underrepresented in the primary sector as professionals and managers and consistently overrepresented in the secondary sector taking on jobs such

as laborers, operators and fabricators (Perez and De La Rosa 1993:214). While Mexican Americans are concentrated in the secondary sector, other structural factors and individual characteristics exacerbate the disparity in earnings. Catanzarite (2003) found that workers employed in occupations with high concentrations of low-educated minorities experience lower wages compared to those in occupations with fewer of these workers (see also Catanzarite and Aguilera 2002). Such factors contribute more to the large number of the "working poor" living under the poverty level of which Mexican Americans make up a large part (Perez and De La Rosa 1993). Considering past trends in distributions of occupations between primary and secondary sectors, I expect to see more whites working in the primary sector than Mexican Americans. This distinction will be made by comparing the average occupation prestige score for each group.

Segmented labor theory provides an additional perspective where human capital theory falls short. Basically it allows us to simultaneously analyze the differences in labor market outcomes between and within sectors while considering individuals who are skilled and unskilled (Kalleberg and Sorensen 1979). However, because research has found that minorities are more prevalent in the secondary sector (Reich et. al. 1973), we need to look further into the structural factors that perpetuate this split in the labor market. We turn our attention now to discrimination in the labor market.

Discrimination Perspective

The concept of discrimination in the labor market is simply based on hiring decisions and distributions of wages according to personal biasness of the employer(s).

Discrimination in the labor force "exists when workers of equal productivity do not receive equal job rewards" (Kalleberg and Sorensen 1979:370). The creation of occupation niches in the labor market has a strategic purpose where employers and even labor unions are primary actors at the structural level by distributing menial, low-wage, low-skill jobs to minority ethnic groups. Bonacich (1972) explains that as a way to replace high wage jobs in the sectors such as skilled crafts, employers seek out cheaper labor creating "caste" systems and a split in the labor market. While some secondary jobs may require similar responsibilities but pay at lower wages, these jobs are given to minorities as a way to cut costs and create competition among ethnic groups. Additionally, ethnic antagonism created by this split facilitates the filling of menial jobs with minorities. Thus, hiring and placing minority groups in secondary sector jobs enables discrimination to take place. Thus, the more intense the discrimination, the worse off the minority group will be and the longer the discrimination is practiced on a group with discrimination developing its own dynamics (Swinton 1975).

To further explain the effects of discrimination among minorities I provide several findings in the case of people of Mexican origin. First, Mexican Americans tend to receive lower wages in the private sector and experience discrimination in occupations with lower salary increments and promotions (Raymond and Sensnowitz 1983). Second, research focusing on people of Mexican origin and labor markets found that regardless of nativity, employers tend to group people of Mexican origin as a homogenous group and are perceived as foreigners that provide cheap labor in the U.S. (Dodoo and Pinon 1994). Furthermore, using queuing theory, Kmec (2003) found that

employers place/hire “minorities into low-paying positions where poor working conditions, subservient tasks, low prestige and low pay [occupations are seen] as ‘appropriate’ for minorities” (Kmec 2003:41). Third, physical appearance such as phenotype and indigenous physical features add to the distinguishing or grouping individuals with ethnic groups. For example, research focusing on the correlation between phenotype and earnings (Telles and Murguia 1990; Mason 2001), and phenotype and education (Murguia and Telles 1996), while controlling for factors such as education, clearly indicates that darker phenotype individuals and even those individuals with indigenous features receive lower wages and occupational prestige status (Espino and Franz 2002) than their lighter more European looking counterparts. The difference in non-preferential treatment is attributed to one common factor which is based on appearance and associating individuals into a homogenous ethnic group making it easier for such a group to experience discrimination. Thus, the practice of discrimination is one that is perpetuated in systemic and structural forces in the labor market. It can be argued that being identified as a member of a minority group (labeled by association) such as a native-born to a foreign-born Mexican American, can lead to being discriminated resulting in lower wages and occupation prestige status.

In summarizing the literature, we find that Mexican Americans have lagged behind whites in parity when comparing returns on human capital with respect to earnings and occupation prestige status. Three determinants of labor market outcomes were reviewed: human capital attainment, segmented labor theory, and discrimination. Of the three determinants, human capital continues to be the most salient variable in

predicting labor market outcomes. However the latter two concepts seem to directly affect labor market outcomes more for Mexican Americans than whites. This thesis evaluates the relationship between education and two labor market outcomes, earnings and occupation prestige, among Mexican Americans, whites, and African Americans. In addition, the thesis assesses the extent to which Mexican Americans receive comparable returns to education with respect to occupational prestige and earnings relative to whites and African Americans. From the literature review I form two hypotheses:

1. Mexican Americans receive lower earnings as returns to their education attainment compared to whites and African Americans.

2. Mexican Americans receive lower occupational prestige scores/status as returns to their education attainment compared to whites and African Americans.

We turn our attention now to data and methods used in the analysis.

CHAPTER III

DATA AND METHODS

Data Sources and Measures

Data from the 2000 5% Public Use Microdata Sample (PUMS) are used to conduct the analysis. Because of its large volume of observations, the PUMS data represent the most useful data source for analyzing minority groups. Given the nature of the study, a comparison of returns nationwide, this data set provides a representative sample on a national level.

The analysis looks at native-born subgroups of Mexican Americans along with non-Hispanic whites and African Americans. The focus on the native-born is done to control for equal access to education and legal work opportunities across the three groups. To account for respondents' educational attainment and work experience opportunities, individuals age 25 (as of 1999) and older are included in the analysis. Finally, to insure that hourly earnings are based on workers that are attached to the labor force, the analysis is limited to those who worked at least 1,040 hours in 1999, i.e., the equivalent of half-time employment throughout the year or full-time employment for half of the year (Saenz and Morales 2005). Controlling for these factors the entire sample size consists of 4,436,115 persons meeting the criteria. From the entire sample, six sub-samples are created distinguished by ethnicity and gender. The subgroup of Mexican American males consists of a sample size of 67,071; white males, 2,174,691; and African American males, 211,629. The Mexican American female subgroup

consists of a sample size of 54,359; white females, 1,688,172; and African American females, 240,193.

Dependent Variables

The analysis of this study involves two human capital models for each subgroup with one dependent variable in each of the models. The first dependent variable is the natural log of the hourly wages in 1999. First, the hourly wage is obtained by dividing a worker's income earnings in 1999 by the total number of hours worked in 1999. Then the natural log of hourly wage is calculated. The log transformation of the hourly wage is obtained in order to minimize outliers on the distribution of hourly wages. Because the results of the coefficient will be in a log form for this dependent variable, the results will be interpreted as the percentage change in earnings for every unit change in the independent variable of interest. Table 1 provides definitions and operational values of the variables for the analysis.

The second dependent variable is occupational prestige score (OCCPREST), obtained from Nam and Boyd (2004). The scores are derived through a combination of various socioeconomic factors, e.g., occupation, education attainment, and income. It should be noted that the model predicting occupation prestige as the dependent variable is composed of components which are also included in the independent variable such as education and income. Therefore these results should be approached carefully. The Nam and Boyd rankings range from 1 to 100 with 100 being the highest. For details on how these prestige scores are calculated, see Nam and Boyd (2004). The results of the

coefficient for occupational prestige score will be a given score/point and interpreted as the actual change in point(s) for every unit change in the independent variable of interest.

Independent Variables

Since the primary focus of this thesis is estimating the returns on education, the principal independent variable for the analysis is education which represents human capital attainment. To estimate the returns on education attainment, education levels from the census are recoded and categorized ranging from "less than a high school diploma" to "doctoral" degree. This category is then divided into six dummy variables based on highest educational level completed: 1) high school diploma = 12 years of school, 2) some college = 13 to 15 years of school, 3) college degree = 16 years of school, 4) master's degree = 18 years of school, 5) professional degree = 20 years of school, 6) doctorate degree = 20 years of school. The U.S. Census lists professional degrees and careers as those commonly found in the medical, law and theology, e.g., medicine, dentistry, pharmacy, veterinary medicine, law, etc. (For explanation of degrees and careers see U.S. Census Bureau 2000 5% PUMS codebook). Because I expect individuals with less than a high school diploma (i.e., less than 12 years of school/high school dropouts) to have lower returns when compared to other individuals with higher education attainment levels, these individuals represent the comparison group in the series of education attainment dummy variables.

Control Variables

The analysis includes a series of control variables used in other human capital studies and models (Saenz 2000). The control variables for the analysis include variables of work experience, type of job sector, disability, marriage, and region. The control variable of experience is calculated by taking the respondent's age and subtracting their years of education. This number is then subtracted by 6 representing the age that the individual would have started school. Because age is used to calculate work experience, and is related to experience, a variable controlling for age is not included in the analysis to avoid any colinearity. Additionally, comparison of the two variables, experience and age, yields work experience as being a greater predictor in labor outcomes, hence the choice of experience over age. The second control variable for experience is experience squared, and much like calculating the natural log of hourly wage, squaring the years of experience is done to limit outliers. For the type of job sector, i.e. private, public, and self employed, the census variable of class-worker (clwkr) is recoded and dummy variables are created for these three groups. For the model predicting earnings, public sector represents the comparison group expecting that these individuals would receive lower earnings compared to other individuals working in the private sector or are self-employed. Disability limitation and married variables are also recoded as dummy variables. I would expect to see that individuals with a disability are more likely to receive lower earnings while individuals who are married will be more likely to receive greater earnings when compared to non-married individuals. Finally, the U.S. Census provides variables of national regions which are Northeast, Midwest,

South and West regions. However, since a large potion of Mexican Americans is known to reside in the southwest region of the country, a variable for the southwest region is created. The Southwest region includes the states of Arizona, California, Colorado, New Mexico, and Texas (Saenz 2000). To avoid overlapping of persons in multiple regions, the South region includes all of the states in the Census Bureau's south region excluding Texas, and the west includes all states in the Census Bureau's west region excluding Arizona, California, Colorado, and New Mexico. All regions are then recoded and dichotomized. I expect to find that individuals living in the Northeast region will have the highest wages compared to individuals working in other regions. Therefore, the Northeast region is used to represents the comparison group for the region variables. Again, for definitions and operational values of the variables see Table 1.

Statistical Procedures and Analytical Plan

Ordinary least squares (OLS) multiple regressions are used to conduct the analysis. Because of the interval-level format of the two dependent variables, natural log of hourly wages and occupational prestige score, OLS is the best method to examine the relationship between education and the dependent variables, adjusting for the respective set of control variables. These two models are run individually for the six subgroups based on ethnicity and gender. The regression model equation for the log of hourly wages follows where:

$$Y = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_kX_k + e$$

And the X variables include:

1. Education Variables (6 total)
2. Work Experience
3. Experience Squared
4. Job Sectors (2 total)
5. Disability Limitation
6. Married
7. Region (4 total)

The regression model equation for occupational prestige follows where:

$$Y = a_0 + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_kX_k + e$$

And the X variables include:

1. Education Variables (6 total)
2. Work experience
3. Work Experience Squared
4. Disability Limitation
5. Married
6. Region (4 total)

To further understand the effects and strength of the independent variables on the dependent variables, the standardized estimates are calculated. Given that the model includes variables with different levels of measurement, i.e., log of hourly wages reported as percentages, occupation prestige score reported at an interval level score, education attainment as a dummy variable, etc., we cannot compare the magnitude or strength of each of the independent variables on the dependent variable solely based on the unstandardized coefficient estimates. By standardizing the partial slopes we can arrive at a metric comparison or metric strength of each of the independent variables on the dependent variables. Thus we can compare the standardize estimates and confidently single out the variables which most strongly affect earnings and occupation prestige outcomes. An interpretation of a standardized estimate would state that for every one standard deviation increase or decrease in the independent variable of choice would result in a percent standard deviation increase or reduction in the dependent variable, holding constant the effects on the remaining independent variables. Because the

Table 1. Description and Measurement of Variables Used to Determine Wage and Prestige Returns Based on Education for Mexican American Workers in 1999 Using 2000 Census, 5 Percent PUMS

Dependent Variables	
Log of Hourly Wage	Derived from respondent's hourly wage; wage = worker's income earnings / total number of hours worked in 1999
Occupational Prestige Score	Occupational prestige ranked from 1 to 100 with 100 being the highest possible rank
Independent Variables	
Education	Education attainment level of the respondent, highest grade or degree completed dummy variables created and categorized; less than high school diploma is reference group
High School Diploma	1 = has attained a high school diploma; otherwise = 0
Some College	1 = has attained some college experience; otherwise = 0
College Degree	1 = has attained a college degree; otherwise = 0
Master's Degree	1= has attained a master's degree; otherwise = 0
Professional Degree	1 = has attained a professional degree; otherwise = 0
Doctoral Degree	1 = has attained a doctorate's degree; otherwise = 0
Control Variables	
Work Experience	Work experience of the respondent; experience = age - years of education - 6
Experience Squared	Work experience squared
Job Sector	Job sector the respondent is employed in, two sets of dummy variables created; public sector is references group
Private Sector	1 = private sector; otherwise = 0
Self Employed	1 = self employed; otherwise = 0
Disability Limitation	Respondent is self identified as a disable person, 1 = disable; otherwise = 0
Married	Respondent's marital status, 1 = Married; otherwise = 0
Geographical Region Variables	
Region	Nation regional area, sets of dummy variables are created; Northeast is reference region
Southwest	1 = southwest; otherwise = 0
Midwest	1 = midwest; otherwise = 0
South	1 = south; otherwise = 0
West	1 = west; otherwise = 0

models include dichotomous variables, interpreting the standardized estimates may be nonsensical in some cases. For example, when comparing dummy variables such as college degree, disability, married, etc., we cannot say that a person is one standard deviation more/less than disable or married. Much like a person cannot be more or less than male or female. Therefore, in this analysis, we are only concerned with observing the metric strength of the independent variables and not on interpreting the standardized estimates.

Once the models are established, the analysis will consist of comparing differences in the education unstandardized coefficient estimates to determine if there is any statistical significance in returns to education across the ethnic groups. To determine if the differences in the coefficient estimates are large enough to be statistically significant across ethnic groups, a series of Z-tests will be applied for each of the education levels. The study takes into consideration the differences in sample size for each of the subgroups. For an explanation of test of significance and difference in sample sizes please see Paternoster et al. (1998). Comparing the coefficients across education levels for each of the six models will provide the answer to the research question of this study: do Mexican Americans receive comparable returns to education with respect to occupational prestige and earnings relative to whites? Below is the formula used to calculate the Z-test for the coefficient estimates across ethnic and gender groups (Paternoster et al. 1998:862).

$$Z = \frac{b_1 - b_2}{\sqrt{SEofb_1^2 + SEofb_2^2}}$$

Where b_x = education coefficients estimates of ethnic groups.
SE of b_x = Standard Error of coefficient

CHAPTER IV

RESULTS

Descriptive Statistics and Results

The focus of the study compares the returns on education attainment for three large ethnic groups, Mexican Americans, whites and African Americans. The differences in levels of education and labor market outcomes of wages, particularly the natural log of hourly wage, and occupation prestige score are compared closely across ethnic groups for males and females. Thus, education attainment variables are the primary variables of interest in this study. A secondary group of variables consisting of working conditions dealing with individual and geographical factors are considered as well and are grouped as control and regional variables. Thus, the control variables are of secondary interest in the analysis. Before analyzing the regression results, a closer look at the descriptive statistics provides an important analysis of the sample distributions. First, to gauge the state of human capital attainment for the ethnic groups a comparison of education attainment levels for males and females as of 1999 we turn to Figures 1 and 2 which look at the percentage distribution of educational attainment for each subgroup. Note that the subgroups are limited to male and female native-born of Mexican Americans, non-Hispanic whites and African Americans persons 25 year of age and older who worked 1,040 hours or more in the 1999 calendar year.

Figure 1 demonstrates the distribution percentages of levels of education attainment for the Mexican American, white, and African American males. First, Mexican American men have the lowest average years of education (9.4 years)

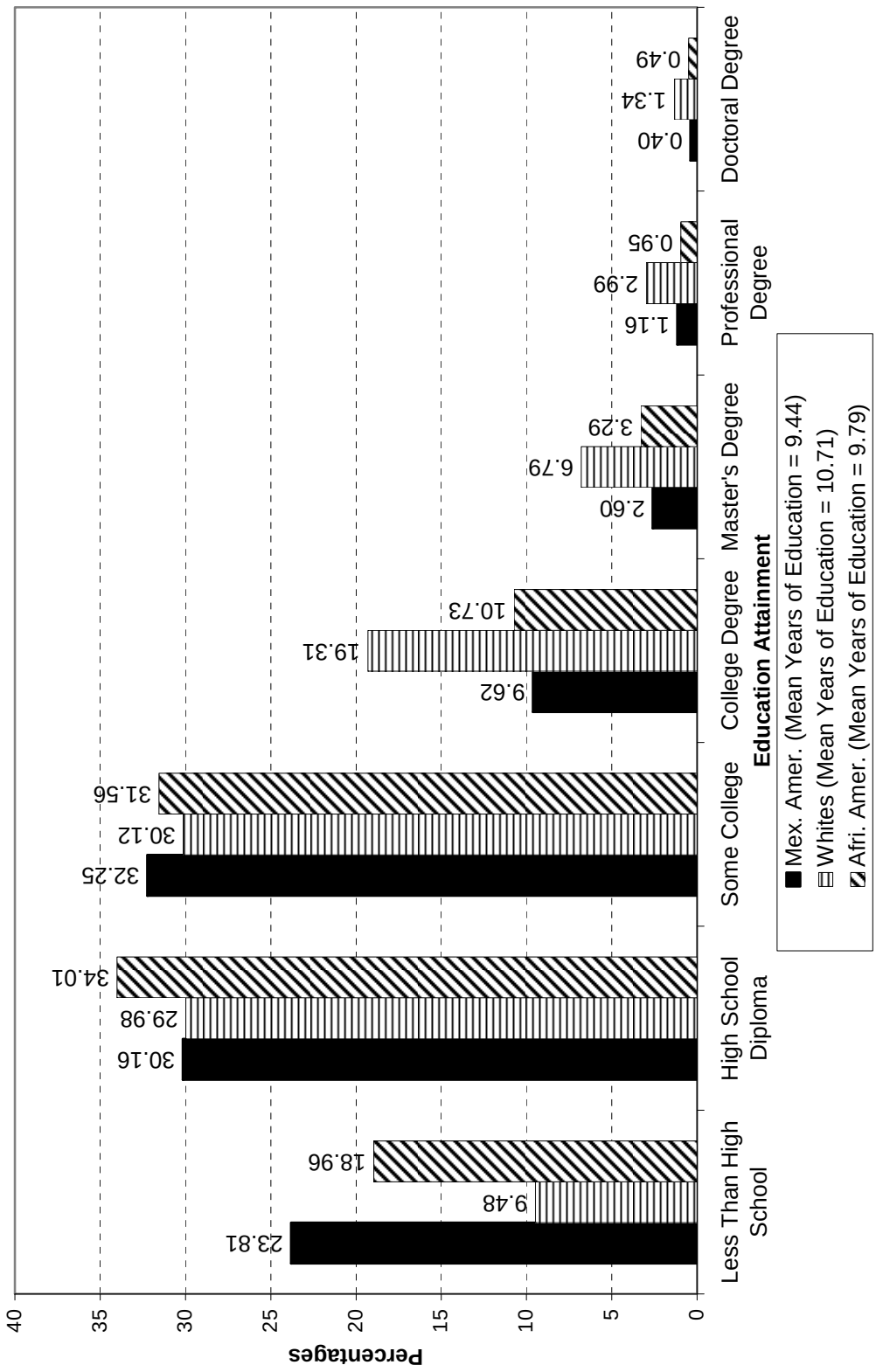

Figure 1. Percent Distribution of Highest Level of Education Attainment for Males by Ethnic Group

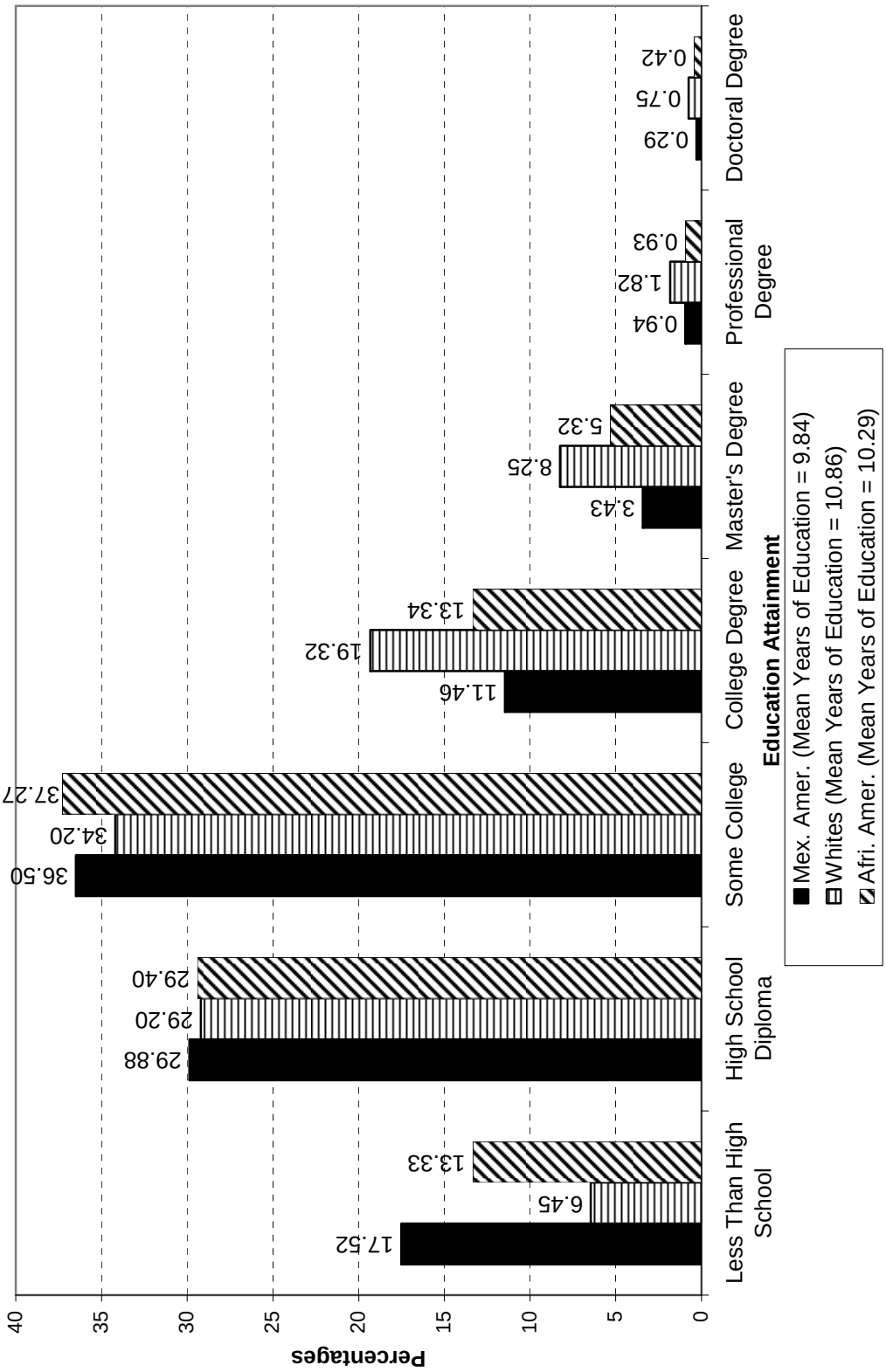

Figure 2. Percent Distribution of Highest Level of Education Attainment for Females by Ethnic Group

compared to the African American (9.8) and white (10.7) counterparts. While the difference in mean years of education attainment seems relatively minimal, we need to consider the frequency percentage distribution of the subgroups which provides a different picture.

Consistent with education attainment literature, the results show that Mexican Americans continue to lag behind whites and African Americans in levels of education attainment (Espinoza-Herold 2003; Perez and De La Rosa 1993; Saenz and Morales 2005). Beginning with the lowest level of education attainment, Mexican Americans have the highest percent of respondents having less than a high school diploma with almost 24 percent (23.8%) compared to whites with only 9.5 percent and African Americans with 19 percent. Thus, Mexican American men are 2.5 times more likely than white men to not have a high school diploma. Such differences, albeit in an opposite direction, are observed at higher levels of education. For example, 19 percent of the whites have a college degree compared to 9.6 percent of Mexican Americans and 10.7 percent of African Americans. Hence, white men are twice as likely to be college graduates compared to Mexican American men. Furthermore, the remaining difference in the sample distribution is extended to the graduate and professional education attainment levels with whites having 6.8, 3.0, and 1.3 percent having master's, professional, and doctoral degrees respectively. For Mexican Americans the percentages are 2.6, 1.2, and 0.4 percent at the same respective education attainment levels. These are 2.5 times and greater in percentage distribution compared to whites.

Figure 2 provides the distribution percentages of levels of educational attainment for the Mexican American, white, and African American women. A comparison between males and females denote that women have a slightly higher average in the years of education when compared to men. However, females follow a similar trend in the educational attainment distribution much like their male counterparts. Mexican American women continue to have the lowest average years of education (9.8 years), followed by African American (10.3) and white (10.9) women. Mexican American women also have the highest percentage of respondents with less than a high school diploma (17.5%) compared to whites (6.4%) and African Americans (13.3%). Again, Mexican American women are 2.7 times more likely to have less than a high school diploma compared to whites. The difference in distribution follows the same pattern for females as for males where the higher levels of education favor white females over their Mexican American and African Americans counterparts. Whites are 1.7 and 2.7 times more likely to receive a college degree and doctoral degree respectively compared to Mexican Americans.

Table 2 provides us with additional summary statistics, particularly, for the labor market outcome variables. As expected, a comparison of average hourly wages denotes that white males benefit on average higher hourly wages when compared to Mexican Americans and African Americans. In 1999, White males had a mean hourly wage average of $19.88 compared to $15.38 for Mexican Americans and $15.44 for African Americans. This is an hourly wage advantage of $4.50 for whites. The calculated natural log of hourly wages resulted with whites having a slight advantage over Mexican

Americans as expected. In addition, a comparison of the average occupational prestige scores depicts whites continuing to have an advantage over Mexican Americans and African Americans. Whites have a mean average occupational prestige score of 71.27 while Mexican Americans have a mean average occupational prestige score of 68.52 and African Americans with a mean average of 58.87.

The same patterns in labor market outcomes correspond to the female subgroups where white females have an advantage, albeit a smaller advantage compared to their male counterparts, over Mexican American and African American females in labor market outcomes. In 1999, white females had a mean average hourly wage of $14.60 compared to $12.83 for Mexican American and $13.83 for African Americans. This is a difference of $1.77 between white and Mexican American females. White females also had an occupation advantage with an average occupational prestige score of 68.06 compared to 64.97 and 62.89 respectively for their Mexican American and African American female counterparts.

Briefly looking at the summary statistics of the remaining control variables, we find that whites average close to 24 years or work experience, African Americans 22 to 23 years, and Mexican Americans averaged around 21 years. Seventy to 75 percent of the total population worked in the private sector with Mexican Americans having the highest percentage of the ethnic and gender groups. African American women (28 percent) are more likely to work in the public sector compared to any other group. Whites (15 percent) are morel likely to be self employed compared to any other group. African American men and women have the highest percentage of people with disability

Table 2. Descriptive Statistics of Variables Used in the Analysis by Gender and Ethnicity (N = 4,436,115)

	Males Mean (SD)			Females Mean (SD)		
Variables	Mex. Amer.	Whites	Afr. Amer.	Mex. Amer.	Whites	Afr. Amer.
Average hourly wage	15.38 (13.25)	19.88 (20.76)	15.44 (14.59)	12.83 (10.63)	14.60 (12.73)	13.83 (13.21)
Natural log of hourly wage	2.59 (0.62)	2.83 (0.69)	2.56 (0.63)	2.41 (0.58)	2.54 (0.61)	2.45 (0.61)
Occupational prestige score	68.52 (61.72)	71.27 (53.34)	58.87 (79.73)	64.97 (31.06)	68.06 (25.85)	62.89 (40.41)
Education:	9.44 (2.77)	10.71 (2.44)	9.79 (2.42)	9.84 (2.56)	10.86 (2.22)	10.29 (2.27)
Less Than High School	0.24 (0.43)	0.09 (0.29)	0.19 (0.39)	0.18 (0.38)	0.06 (0.25)	0.13 (0.34)
High School Diploma	0.30 (0.46)	0.30 (0.46)	0.34 (0.47)	0.30 (0.46)	0.29 (0.45)	0.29 (0.46)
Some College	0.32 (0.47)	0.30 (0.46)	0.32 (0.46)	0.36 (0.48)	0.34 (0.47)	0.37 (0.48)
College Degree	0.10 (0.29)	0.19 (0.39)	0.11 (0.31)	0.11 (0.32)	0.19 (0.39)	0.13 (0.34)
Master's Degree	0.03 (0.16)	0.07 (0.25)	0.03 (0.18)	0.03 (0.18)	0.08 (0.28)	0.05 (0.22)
Professional Degree	0.01 (0.11)	0.03 (0.17)	0.01 (0.10)	0.01 (0.10)	0.02 (0.13)	0.01 (0.10)
Doctoral Degree	0.004(0.06)	0.013(0.11)	0.005 (0.07)	0.003(.05)	0.008(0.09)	0.004 (0.06)
Control Variables:						
Work Experience	21.09 (11.43)	23.94 (11.58)	23.06 (11.49)	20.60 (11.12)	23.60 (11.53)	22.26 (11.06)
Experience Squared	575.53 (621.81)	706.98 (649.48)	663.70 (648.84)	547.82 (578.44)	689.97 (626.89)	617.86 (593.19)
Private Sector	0.75 (0.43)	0.71 (0.45)	0.73 (0.45)	0.72 (0.45)	0.73 (0.44)	0.69 (0.46)
Public Sector	0.18 (0.38)	0.14 (0.35)	0.22 (0.41)	0.23 (0.42)	0.19 (0.39)	0.28 (0.45)
Self Employed	0.08 (0.27)	0.15 (0.36)	0.06 (0.23)	0.04 (0.21)	0.08 (0.27)	0.03 (0.17)
Disability Limitation	0.19 (0.39)	0.14 (0.35)	0.22 (0.42)	0.17 (0.38)	0.12 (0.33)	0.22 (0.41)
Married	0.64 (0.48)	0.72 (0.45)	0.56 (0.50)	0.57 (0.49)	0.64 (0.48)	0.39 (0.49)
Region:						
Northeast	0.01 (0.11)	0.20 (0.40)	0.13 (0.33)	0.01 (0.12)	0.21 (0.40)	0.13 (0.34)
Southwest	0.80 (0.40)	0.17 (0.38)	0.16 (0.36)	0.80 (0.40)	0.17 (0.38)	0.15 (0.35)
Midwest	0.09 (0.29)	0.28 (0.45)	0.17 (0.37)	0.09 (0.29)	0.28 (0.45)	0.17 (0.38)
South	0.05 (0.22)	0.28 (0.45)	0.53 (0.50)	0.04 (0.21)	0.28 (0.45)	0.54 (0.50)
West	0.05 (0.21)	0.07 (0.25)	0.02 (0.13)	0.05 (0.21)	0.06 (0.25)	0.01 (0.11)
N	67,071	2,174,691	211,629	54,359	1,688,172	240,193

Source : 2000 5% Public Use Microdata Sample, U.S. Census Bureau.
Note : SD = standard deviation

limitations (22 percent). Nearly three-fifths (56%) percent of all ethnic groups tend to married with the exception of African American women with only 39 percent being married. Finally for residency in regions, Mexican Americans tend to reside in the Southwest (80%) region. Whites tend to be disbursed throughout the country with the Midwest and South regions having the largest concentration of whites (28%); African Americans tend to reside in greater portions in the South (53%).

To summarize this descriptive section, the results reiterate previous findings that Mexican Americans indeed do have lower levels of education when compared to whites and African Americans. This is especially true with Mexican American males and females having a high percentage of high school dropouts and very low percentages of Mexican Americans attaining higher levels of education, beginning with college degrees. Indeed, the disparities in human capital attainment between the ethnic groups are quite noticeable. However, the remaining independent control variables seem to be similar across gender and ethnicity with only geographical regions varying between the ethnic subgroups. We now turn our attention to the major objective of this thesis.

Regression Results

Male wages and occupational prestige. The regression results show a significant trend in the returns on education. In general there is a positive relationship between the principal independent variables of education and the dependent variables of earnings and occupational prestige for both males and females, regardless of ethnicity. Still we need to take a closer look at the relationships between education, earnings and occupation

prestige. Of the principal variables in this study, the results show which education level has the strongest influence on labor market outcomes. Again, other independent variables are considered but remain as a secondary interest. First we begin by looking at the multivariate results of earnings and occupational prestige for males.

For the model predicting the log of hourly wages, the results show that 17.2 percent of the variation in the log of hourly wages can be explained with the use of the independent and control variables in the model for the Mexican American males (Table 3), compared to 19 percent for whites and 16.3 percent for African Americans. In addition, the principal independent variables in the subgroup models are statistically significant ($p < .0001$), including most of the control variables. A level of significance was expected due to the large sample size in the models. Since the dependent variable for earnings has been converted to a natural log, each of the independent variables can be interpreted as having a percentage change in earnings. For example, let us look at the lowest and highest returns on education for the three ethnic groups. At the low end of returns, among Mexican American men, individuals who have only a high school diploma have earnings that are 20.8 percent higher compared to those individuals who have less than a high school diploma. For white and African American men, individuals who have a high school diploma have earnings on average that are 15.5 percent and 15.4 percent higher respectively when compared to their counterparts with less than a high school diploma. At the high end of returns to education, whites have wages that are 107 percent higher than their peers without a high school diploma with the advantage gap being somewhat lower for African Americans (94%) and Mexican Americans (88.4%).

Table 3. Multivariate Regression Results of the Log of Hourly Wage Model: Comparing Returns on Education for Male Workers in 1999

	Mex. Amer.		Whites		Afr. Amer.	
Independent Variables	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.
Education						
High School Diploma	.208*** (.006)	0.155	.155*** (.002)	0.103	.154*** (.004)	0.116
Some College	.394*** (.006)	0.299	.309*** (.002)	0.206	.314*** (.004)	0.232
College Degree	.660*** (.009)	0.317	.631*** (.002)	0.365	.597*** (.005)	0.295
Master's Degree	.783*** (.015)	0.204	.738*** (.002)	0.274	.736*** (.008)	0.210
Professional Degree	.884*** (.023)	0.144	1.066*** (.003)	0.247	.940*** (.014)	0.139
Doctoral Degree	.857*** (.036)	0.086	.812*** (.004)	0.136	.782*** (.019)	0.087
(Less Than High School)						
Control Variables						
Work Experience	.027*** (.001)	0.503	.035*** (.000)	0.572	.024*** (.000)	0.443
Experience Squared	.000*** (.000)	-0.402	-.001*** (.000)	-0.492	.000*** (.000)	-0.334
Private Sector	-.033*** (.006)	-0.022	.079*** (.001)	0.048	-.057*** (.003)	-0.039
Self Employed	-.038** (.014)	-0.011	-.069*** (.002)	-0.026	-.111*** (.009)	-0.026
(Public Sector)						
Disability Limitation	-.068*** (.006)	-0.043	-.088*** (.001)	-0.044	-.046*** (.003)	-0.030
Married	.155*** (.005)	0.121	.188*** (.001)	0.123	.149*** (.003)	0.118
Region						
Southwest	-.050** (.019)	-0.032	-.008*** (.001)	-0.005	-.085*** (.005)	-0.049
Midwest	.024 (.021)	0.011	-.097*** (.001)	-0.063	-.049*** (.005)	-0.029
South	-.128*** (.022)	-0.045	-.119*** (.001)	-0.077	-.172*** (.004)	-0.137
West	-.042* (.022)	-0.015	-.092*** (.002)	-0.034	-.103*** (.010)	-0.021
(Northeast)						
Intercept	1.946*** (.022)		1.920*** (.003)		2.057*** (.007)	
Adj. R-Sqr.	.172		.190		.163	
N	63,777		1,989,882		204,289	

Source : 2000 5% Public Use Microdata Sample, U.S. Census Bureau.
Note: Coefficient estimates are shown (SE = standard errors in parentheses).
Standardized estimates are given. (For variables, reference group in parenthesis)
* $p < .05$; ** $p < .01$ *** p < .0001

This interpretation can be used for the remaining independent variables to explain the effects of each independent variable on the dependent variable. A general trend to recognize when examining the variables of interest (education attainment) for males is that the more human capital invested in the form of education, the greater the rewards in hourly wage earnings. The results show that indeed wages are highly correlated with human capital attainment.

Part of the analysis determines which variables have the greatest affect on earnings. This is done by examining the standardize estimates of each model. By employing the use of standardized estimates, the coefficient estimates are converted into a common unit of measurement. Standardize estimates provide a metric comparison of all the estimates regardless of the level of measurement for each variable. Therefore we can compare metrically how the independent variables (i.e., education, work experience, region, etc.) affect the dependent variables (i.e., earnings, occupational prestige). The standardized estimates are interpreted on a basis of one standard deviation increase or decrease in the independent variable. However, because the models include dichotomous variables, interpreting the standardized estimates is not straightforward in some cases, as mentioned in the methods section. Therefore, for the purpose of this study, we are only interested in observing the metric effect, which is the strength of the relationship between the dependent variable and the independent variables.

For the log of hourly wage regression, a comparison of the standardized estimates for the primary variables of interest show that of the human capital attainment variables, attaining a college degree provides the greatest metric strength when

compared to other education level variables (Table 3). This result is common for all ethnic groups with Mexican Americans having a standardized estimate of 0.317; whites having a standardized estimate of 0.365 and African Americans having a standardized estimate of 0.295 for college degree attainment, controlling for the remaining independent and control variables, all else equal.

The regression results for the remaining control variables in the log of hourly wage model show that work experience has the greatest metric strength of all the control variables for the three ethnic groups (Mexican Americans 0.503, whites 0.572, and African Americans 0.443). Regarding actual earnings, individuals who are married receive greater returns in earnings when compared to unmarried individuals. Married Mexican Americans, whites, and African Americans receive on average 15.5, 18.8, and 14.9 percent greater returns respectively than their unwedded counterparts. Having a disability negatively impacts wages for Mexican Americans (6.8 percent) and whites (8.8 percent), while being self employed for African Americans has the greatest negative impact on their wages (11.1 percent).

The last set of control variables looking at geographic regions for the log of hourly wage model for males shows that Mexican Americans, whites and African Americans living in the South region of the country receive 12.8, 11.9, and 17.2 percent lower wages respectively when compared to individuals living in the Northeast region of the country. The results show that indeed individuals residing in the Northeast region have the highest wages among all individuals in other regions.

The second regression model looks at occupation prestige scores among males across ethnic groups. Table 4 shows that the independent variables used to predict occupation prestige scores for the ethnic groups explain only 2 percent of the occupation prestige score variation for Mexican Americans, 2.2 percent for whites, and 1.9 percent for African Americans. Having such low Adjusted R-Squares for the occupation prestige models is of concern primarily because currently the independent variables in the model do not predict sufficiently occupation prestige outcomes or perhaps more variables are need to be included in the model. Still, let's look at the regression results.

As was the case for the previous model, all of the principle variables of education are significant ($p < .0001$) and most of the control variables as well. Because the dependent variable is a recoded interval level score (not calculated in percentages as the natural log of hourly wages), the coefficient estimates can be interpreted as the average change in the dependent variable associated with a one unit change in the independent variable of choice when other independent variables are held constant.

In the case of Mexican Americans, those with a high school diploma have occupational prestige scores that are 2.9 points higher when compared to individuals with less than a high school diploma. For whites and African Americans, individuals with a high school diploma increase their occupation prestige score on average by 3.5 and 4.1, respectively, relative to persons with less than a high school diploma.

As was the case with the log of hourly wage model, the education attainment groups with the greatest returns in occupation prestige score were individuals with professional degrees when compared to their subgroup counterparts with less than a high

Table 4. Multivariate Regression Results of the Occupational Prestige Model: Comparing Returns on Education for Male Workers in 1999

	Mex. Amer.		Whites		Afr. Amer.	
Independent Variables	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.
Education						
High School Diploma	2.944*** (.660)	0.022	3.497*** (.135)	0.030	4.078*** (.506)	0.024
Some College	9.774*** (.657)	0.074	10.091*** (.136)	0.087	15.225*** (.523)	0.089
College Degree	15.516*** (.927)	0.074	15.286*** (.147)	0.113	18.312*** (.683)	0.071
Master's Degree	19.399*** (1.552)	0.050	20.180*** (.183)	0.095	21.971*** (1.039)	0.049
Professional Degree	24.211*** (2.254)	0.042	27.452*** (.240)	0.088	23.074*** (1.812)	0.028
Doctoral Degree	16.471*** (3.776)	0.017	18.836*** (.332)	0.041	19.610*** (2.486)	0.017
Control Variables						
Work Experience	-.564*** (.072)	-0.104	-.436*** (.011)	-0.095	-.851*** (.054)	-0.123
Experience Squared	.007*** (.001)	0.073	.005*** (.000)	0.065	.009*** (.001)	0.075
Disability Limitation	-2.435*** (.605)	-0.016	-1.782*** (.105)	-0.012	-2.331*** (.417)	-0.012
Married	3.747*** (.501)	0.029	3.096*** (.082)	0.026	7.362*** (.354)	0.046
Region						
Southwest	-3.013 (2.072)	-0.020	3.254*** (.117)	0.023	6.279*** (.652)	0.029
Midwest	-5.920** (2.200)	-0.028	-1.195*** (.105)	-0.010	-2.251*** (.641)	-0.011
South	19.247*** (2.314)	0.067	4.396*** (.105)	0.037	4.447*** (.540)	0.028
West	3.554 (2.320)	0.012	3.159*** (.158)	0.015	24.081*** (1.402)	0.039
Intercept	69.769*** (2.267)		64.821*** (.201)		66.244*** (.916)	
Adj. R-Sqr.	.020		.022		.019	
N	67,071		2,174,691		211,629	

Source : 2000 5% Public Use Microdata Sample, U.S. Census Bureau.

Note: Coefficient estimates are shown (SE = standard errors in parentheses).

Standardized estimates are given.

** $p < .01$ *** p < .0001

school diploma; Mexican Americans with professional degrees on average increase their occupation prestige score by 24.2, whites by 27.5 and African Americans by 23.1 points. In short, comparing the unstandardized estimates results of the occupation prestige model for males, the results show an almost identical trend as the log of hourly earnings model for males. In addition, when comparing the standardized estimates, much like the log of hourly wage regression model, attaining a college degree provides a strong metric influence on occupation prestige score with values of 0.113 for whites. However, for Mexican Americans and African Americans having some college provides the strongest metric influence with a value of 0.074 and 0.089 respectively. Also, having a college degree for Mexican Americans yields the same metric strength as having some college experience (0.074).

The control variables in the occupational prestige model for males show that work experience has the greatest impact in prestige status, negatively influencing individuals with experience throughout time (Mexican Americans -0.104; whites -0.095; African Americans -0.123). Individuals with disabilities experience a loss in prestige status as well with Mexican Americans averaging a 2.4-, whites a 1.8-, and African Americans a 2.3-point loss in prestige status score. However, being married increases an individual's occupational prestige across the three ethnic subgroups. For Mexican Americans prestige status increase by 3.8 points, for whites by 3.1 points, and for African Americans by 7.4 points when compared to their unmarried counterparts. Finally, the geographic region where Mexican American and white males benefit with respect to the highest returns in occupation prestige is the South with advantages of 19.2

and 4.4 higher points respectively compared to individuals living in the Northeast. For African Americans, those individuals living in the West average 24.1 higher prestige points compared to individuals living in the Northeast.

Female wages and occupation prestige. Moving on to the female subgroup models of the log of hourly wages and occupational prestige scores, I will briefly discuss the results looking at general patterns and comparisons across the three ethnic groups. For the model on the log of hourly wages for females, the independent variables used in this model explain 18.9 percent of the variation in the log of hourly wages for Mexican American, 20.8 percent for white, and 21.9 percent for African American population samples (Table 5). Thus, the female models examining earnings outcome explain slightly more of the variance compared to the comparable male models. All the principal variables of interest (education attainment) are statistically significant much like the male samples. The greatest returns on education for Mexican American and white females concerns a professional degree. Mexican American and white women with a professional degree have hourly wages that are 98.9 percent and 99.1 percent respectively higher than their counterparts with less than a high school diploma. For African American females, having a doctoral degree yields the the greatest returns on education with 97.9 percent higher wages compared individuals with less than a high school diploma counterparts. A comparison of the standardized estimates of the education attainment variables for women finds that having a college degree provides

Table 5. Multivariate Regression Results of the Log of Hourly Wage Model: Comparing Returns on Education for Female Workers in 1999

	Mex. Amer.		Whites		Afr. Amer.	
Independent Variables	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.
Education						
High School Diploma	.208*** (.007)	0.163	.164*** (.002)	0.123	.156*** (.004)	0.116
Some College	.415*** (.007)	0.342	.367*** (.002)	0.286	.357*** (.004)	0.282
College Degree	.754*** (.009)	0.413	.697*** (.002)	0.454	.694*** (.005)	0.386
Master's Degree	.928*** (.014)	0.292	.861*** (.002)	0.393	.892*** (.006)	0.328
Professional Degree	.989*** (.025)	0.160	.991*** (.004)	0.212	.949*** (.012)	0.144
Doctoral Degree	.925*** (.044)	0.083	.955*** (.005)	0.134	.979*** (.018)	0.102
Control Variables						
Work Experience	.022*** (.001)	0.414	.021*** (.000)	0.398	.023*** (.000)	0.406
Experience Squared	.000*** (.000)	-0.335	.000*** (.000)	-0.336	.000*** (.000)	-0.303
Private Sector	-.034*** (.006)	-0.025	-.011*** (.001)	-0.008	-.096*** (.003)	-0.071
Self Employed	-.197*** (.020)	-0.040	-.242*** (.003)	-0.068	-.282*** (.012)	-0.045
Disability Limitation	-.044*** (.006)	-0.029	-.073*** (.001)	-0.039	-.041*** (.003)	-0.028
Married	.026*** (.005)	0.022	.003** (.001)	0.002	.040*** (.002)	0.032
Region						
Southwest	-.044* (.020)	-0.030	-.015*** (.001)	-0.009	-.129*** (.004)	-0.075
Midwest	-.028 (.021)	-0.014	-.130*** (.001)	-0.096	-.112*** (.004)	-0.069
South	-.097*** (.022)	-0.034	-.121*** (.001)	-0.089	-.251*** (.003)	-0.204
West	-.047* (.022)	-0.017	-.107*** (.002)	-0.043	-.105*** (.011)	-0.019
Intercept	1.864*** (.023)		1.970*** (.003)		2.044*** (.007)	
Adj. R-Sqr.	.189		.208		.219	
N	52,657		1,603,699		235,241	

Source : 2000 5% Public Use Microdata Sample, U.S. Census Bureau.

Note: Coefficient estimates are shown (SE = standard errors in parentheses).

Standardized estimates are given.

* $p < .05$; ** $p < .01$ *** p < .0001

the greatest metric influence on returns to education; 0.413 for Mexican Americans; 0.454 for whites; and 0.386 for African Americans.

Briefly looking at the results for the remaining control variables, work experience has the greatest influence on earnings with standardized estimate values over 0.398 for the three ethnic groups. Married Mexican American and African American women benefit from a small percentage increase in earnings, 0.026 and 0.04 respectively; while white married women gain a smaller percentage increase in earnings of 0.003. In general, females who work in the public sector and are not disabled benefit slightly more than their respective counterparts. Finally, Mexican American and African American women residing in the South region of the country experience the largest percentage loss of the regions, 10 and 25 percent loss respectively, in earnings compared to women working in the Northeast. White females residing in the Midwest experience a 13 percent loss in earnings when compared to their Northeast counterparts.

The results for the last regression model looking at occupational prestige outcomes for females show that the independent variables used to predict occupational prestige scores for females explain 5.4 percent of the variation for Mexican Americans, 6.3 percent for whites, and 5.1 percent for African Americans (Table 6). While the variables used as predictors to explain the variance in occupational prestige among females is larger compared to males, there remains concern that additional or alternative independent variables are needed to explain more of the variation.

The results show that human capital variables are significantly associated with occupational status. Comparable to their male counterparts, attaining a professional

Table 6. Multivariate Regression Results of the Occupational Prestige Model: Comparing Returns on Education for Female Workers in 1999

	Mex. Amer.		Whites		Afr. Amer.	
Independent Variables	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.	Est. (SE)	Stnd. Est.
Education						
High School Diploma	6.981***	0.103	5.341***	0.094	6.893***	0.078
	(.398)		(.085)		(.271)	
Some College	11.837***	0.184	10.442***	0.192	15.547***	0.186
	(.393)		(.085)		(.268)	
College Degree	19.426***	0.199	17.635***	0.269	23.674***	0.199
	(.517)		(.091)		(.326)	
Master's Degree	23.439***	0.137	20.611***	0.219	27.605***	0.153
	(.777)		(.104)		(.420)	
Professional Degree	27.213***	0.084	26.415***	0.137	32.119***	0.076
	(1.387)		(.164)		(.872)	
Doctoral Degree	24.636***	0.042	23.539***	0.079	30.302***	0.048
	(2.441)		(.235)		(1.264)	
Control Variables						
Work Experience	.077	0.028	.028***	0.013	.026	0.007
	(.041)		(.006)		(.026)	
Experience Squared	-.004***	-0.081	-.001***	-0.015	-.004***	-0.056
	(.001)		(.000)		(.000)	
Disability Limitation	-.500	-0.006	-1.509***	-0.019	-1.314***	-0.014
	(.349)		(.059)		(.197)	
Married	1.112***	0.018	.653***	0.012	1.430***	0.017
	(.264)		(.041)		(.167)	
Region						
Southwest	.138	0.002	1.050***	0.015	-.561	-0.005
	(1.112)		(.063)		(.307)	
Midwest	-.324	-0.003	-1.495***	-0.026	-1.905***	-0.018
	(1.182)		(.056)		(.296)	
South	5.366***	0.036	.823***	0.014	-.941***	-0.012
	(1.262)		(.056)		(.250)	
West	-.419	-0.003	-.397***	-0.004	5.049***	0.014
	(1.255)		(.087)		(.770)	
Intercept	55.141***		56.713***		52.368***	
	(1.242)		(.116)		(.446)	
Adj. R-Sqr.	.054		.063		.051	
N	54,359		1,688,172		240,193	

Source : 2000 5% Public Use Microdata Sample, U.S. Census Bureau.

Note: Coefficient estimates are shown (SE = standard errors in parentheses).

Standardized estimates are given.

*** p < .0001

degree yields the greatest returns in prestige status outcome. Mexican American females with professional degrees on average increase their occupation prestige score by 27.2, whites by 26.4, and African Americans by 32.1 points higher relative to their respective ethnic counterparts without a high school diploma. The standardized estimate show yet again that attaining a college degree provides the greatest metric strength of all the education attainment levels compared to having less than a high school diploma.

Results for the control variables show that being married has the greatest significant influence on occupation prestige status with standardized estimate values of 0.018 and 0.017 for Mexican American and African American women respectively. Work experience, however, provides the greatest significant influence on occupation prestige status for White females with a value of 0.013. Like their male counterparts, married women benefit more in occupational status score compared to their unmarried counterparts for their respective group. Disabled women suffer a loss in occupation prestige status compared to their non-disabled counterparts; however this is not significant for Mexican American females. Finally, Mexican American females receiving higher prestige status in the South (5.4 points), whites in the Southwest (1.1 points), and African Americans in the West (5 points) regions compared to other women working in the Northeast.

In general, the results show that the human capital models predicting earnings and occupational prestige outcomes for males and females are consistent with human capital theory. Indeed, human capital attainment is highly correlated with labor market outcomes. However, a final statistical analysis will demonstrate if Mexican Americans

receive lower returns to their education attainment with respect to earnings and occupational prestige score when compared to whites. The results of the regression models for males and females provide us with sufficient information to test the hypotheses and the research question of this thesis: do Mexican Americans receive equal returns on their education, that is on log of hourly wages and occupation prestige score compared to other racial ethnic groups? The following section tests and answers this research question.

Examination of Lower Returns to Human Capital for Mexican Americans

To test the hypotheses of this study, I employ a test of significance which compares coefficient results within the gender ethnic groups (Paternoster et. al. 1998). The final z-scores determines if there is a statistically significant difference in the estimated returns on education with respect to the log hourly wages and occupational prestige scores for Mexican Americans, whites and African Americans by gender. Table 7 provides the final z-scores of all the models for log of hourly wages and occupation prestige scores for each education attainment level. Note that a z-score greater than 1.96 is significant at the .05 level (one-tailed test). Thus, where there is a z-score greater than 1.96, either positive or negative, we would reject the null hypothesis that there is no statistical difference in the returns (unstandardized estimates) on education. We first examine the results based on the log of hourly wages for males.

The results demonstrate that Mexican American males, when compared to whites, receive greater returns on education when attaining a high school diploma (8.31)

Table 7. Test of Significant Difference in Returns on Education for Workers in Labor Market Outcomes: Earnings and Occupational Prestige Comparisons by Gender and Ethnicity 1999

	Z Scores of Log of Hourly Wages for Male Subgroups		
Education Variables	Mex. Amer. and Whites	Mex. Amer. and Afr. Amer.	Afr. Amer. and Whites
High School Diploma	8.31*	7.51*	-0.26
Some College	13.14*	10.93*	1.09
College Degree	3.20*	6.11*	-6.20*
Master's Degree	3.06*	2.86*	-0.24
Professional Degree	-7.93*	-2.09*	-8.70*
Doctoral Degree	1.24	1.83	-1.54

	Z Scores of Occupation Prestige Score for Male Subgroups		
Education Variables	Mex. Amer. and Whites	Mex. Amer. and Afr. Amer.	Afr. Amer. and Whites
High School Diploma	-0.82	-1.36	1.11
Some College	-0.47	-6.49*	9.49*
College Degree	0.24	-2.43*	4.33*
Master's Degree	-0.50	-1.38	1.70
Professional Degree	-1.43	0.39	-2.39*
Doctoral Degree	-0.62	-0.69	0.31

	Z Scores of Log of Hourly Wages for Female Subgroups		
Education Variables	Mex. Amer. and Whites	Mex. Amer. and Afr. Amer.	Afr. Amer. and Whites
High School Diploma	5.94*	6.39*	- 1.83
Some College	6.52*	7.22*	-2.39*
College Degree	5.95*	5.77*	- 0.62
Master's Degree	4.73*	2.39*	4.78*
Professional Degree	-0.11	1.40	-3.24*
Doctoral Degree	-0.68	- 1.13	1.29

	Z Scores of Occupation Prestige Score for Female Subgroups		
Education Variables	Mex. Amer. and Whites	Mex. Amer. and Afr. Amer.	Afr. Amer. and Whites
High School Diploma	4.03*	0.18	5.47*
Some College	3.47*	-7.80*	18.18*
College Degree	3.41*	-6.95*	17.85*
Master's Degree	3.61*	-4.72*	16.16*
Professional Degree	0.57	-2.99*	6.43*
Doctoral Degree	0.45	-2.06*	5.26*

Source : 5 Percent Public Use Microdata Sample, U.S. Census Bureau.

Note: Z Scores > 1.96 are significant = * $p < .05$ (one-tail test)

up to a master's degree (3.06). When compared to African Americans, Mexican Americans receive greater returns from the high school diploma (7.51) level up to a college degree (2.86). However, Mexican Americans who attain a professional degree receive lower returns when compared to white and African American males; this is evident with z-scores of -7.93 and -2.09 between white and African American males respectively. Furthermore, African Americans receive lower returns at the college degree (-6.20) and professional degree levels (-8.70). Indeed, these results are surprising given that Mexican Americans have the lowest levels of education of the comparison ethnic groups. And in fact, for this reason the results shed light on the significance of investing on education, especially for minorities or groups with low levels of education. In essence what these results show is that any additional year(s) of education attainment provides greater results for Mexican Americans given the state of the education levels for this ethnic group. African Americans, on the other hand, continue to have a disadvantage in reaching parity in returns when compared to their white male counterparts.

A comparison of occupational prestige scores finds that there is no statistical significance between Mexican American and white males when comparing returns on education. While a comparison of occupational prestige scores between Mexican American and African American males yield significant results at some college (-6.49) and the college degree (-2.43) attainment levels with Mexican Americans receive lower returns. Finally, a comparison of African American and white males show that African Americans receive greater benefits in occupation prestige at some college (9.49) and

college degree (4.33) levels but are negatively affected at the professional degree (-2.39) level once again. The remaining levels of education are not significant meaning their returns to occupational prestige are similar across all three similar groups of men.

For females, the test of significance finds that Mexican American females receive greater returns on earnings or log of hourly wages from their education when compared to white and African American females at every education level with the exception at the professional and doctoral degree level (not significant). However, comparing African American and white females, the tests show that when there are significant differences (some college -2.39 and professional degree -3.24), African American females receive lower returns in earnings on their education. It is only at the master's (4.76) level where African American females receive greater returns on their education compared to white females.

The final comparison involving returns on occupation prestige score between the three group of women indicates that when there are significant differences between Mexican American and white women (high school, some college, college degree, and master's degree levels), Mexican American women receive greater returns. However, compared to African Americans, when significant, Mexican American females receive lower returns in occupation prestige at every level of education attainment, except at the high school diploma level (not significant). Finally, African American females receive greater returns in occupation prestige status compared to white females at every level of education attainment, with all the z-scores being significant.

Overall, the results suggest that Mexican American males and females receive on average greater or similar returns on their education when compared to whites. The exceptions on returns are on earnings where white males receive greater returns on professional degrees when compared to Mexican Americans. Therefore, I do not reject the hypothesis predicting that Mexican Americans would receive lower returns than whites on their educational attainment with respect to wages and occupational prestige.

These results hold some promise for the future of Mexican Americans in the labor force. With greater levels of education, Mexican Americans may be able to narrow the economic gap with whites. The next chapter discusses the results, their implications, and provides policy recommendations.

CHAPTER V

CONCLUSION

The overall findings of this thesis confirm the significance of education and human capital endowments in the labor market. Consistently the study demonstrates that investment in human capital tends to provide greater returns in wages and occupation prestige status for Mexican Americans. However, the disparities in human capital attainment between the ethnic groups are quite noticeable, with Mexican Americans having particularly low levels of education. In this study I compared labor market outcomes between three major ethnic groups in the United States — Mexican Americans, whites and African Americans. Controlling for nativity, the study provides a homogenous comparison between ethnic groups with equal access to education and employment opportunities. Focusing on the returns on education of Mexican Americans, this study assesses whether the low levels of earnings and occupational prestige among Mexican Americans merely reflect their low levels of education or whether their earnings and occupation prestige are attributed to lower returns on their education when compared to non-Hispanic whites and African Americans.

The study further contributes to our understanding of the association between human capital and labor market outcomes for different ethnic groups. While the association between human capital investments and labor market outcome of earnings is well established in the literature, the magnitude of this relationship is less clear across ethnic groups. Furthermore, there is much less research assessing the relationship between education and labor market outcomes associated with occupational prestige.

The significance of this study tests the empirical assumptions of human capital on both of these labor market outcomes to assess the education benefits of Mexican American workers.

Consistent with the literature, the study shows that Mexican Americans as a whole continue to lag behind whites in levels of education especially among the higher levels of education beginning at the college degree level. In addition, Mexican Americans continue to have the highest levels of high school dropouts. As expected, white males have the highest average earnings and occupational prestige status when compared to Mexican Americans and African Americans. The earnings and occupation prestige gap between females, however, seems to be more narrow. In spite of these common findings there is however a positive outlook for minority individuals seeking to further their human capital endowment. The overarching findings in this study provide empirical results to the research question of this thesis where Mexican Americans indeed receive comparable if not greater returns on their human capital investments. The overall results suggest that Mexican American males and females receive on average greater or similar returns on their education when compared to whites and African Americans on at least four of the six education attainment levels, i.e. high school diploma, college degree, etc. This suggests that any additional year(s) of education attainment above a high school diploma provides greater returns for Mexican Americans given the anemic state of higher education levels for this ethnic group. Furthermore, the analysis provide empirical evidence of structural discrimination in the case of African American earnings compared to Mexican Americans and whites resulting in African

Americans receiving lower wages despite having equal or greater occupation prestige status among the ethnic groups.

There are two additional findings which are important to note. First, across gender and ethnic groups, the education variable that has the greatest effect on labor market outcomes is attainment of a college degree. However, for African American males, attaining some college experience provides the greatest metric strength in occupation prestige status. While the results show that attaining a college degree provides the greatest potential for individuals to become upwardly mobile, achieving this level of education can be a challenge. The findings show that the representation of Mexican Americans dramatically drops at the level of college degree attainment and higher. This finding suggests that structural forces in the education system such as tracking and discrimination must be analyzed before higher education becomes a reality for Mexican Americans and other minorities.

Second, white males with professional degrees average higher earnings compared to Mexican Americans and African Americans with the same level of education. However, at the same level of education, there is no significant difference in occupation prestige scores across whites and Mexican Americans. Although there is a significant difference between African American and white males in regards to occupation prestige, this does not merit such a large difference in earnings between whites, Mexican Americans and African Americans. Perhaps this can be explained by the modest number of minorities with professional degrees. But if this is the case, as is evident in the other education attainment levels, individuals with specialized training

should be coveted and rewarded commensurate to their talent and limited representation in the labor market (Davis and Moore 1945; Bershady 1970). However, among males with professional degrees, the results present a different relationship. Because of the significant difference in pay, but not in occupation prestige, it could be that discrimination persists even at the professional attainment level. This is even more evident in the case of African American returns compared to whites. An alternate possibility may be that Mexican Americans with professional degrees are returning to their communities serving less affluent clientele compared to their white counterparts. Additional variables which account for the context in which Mexican Americans and other minorities are working should be included in future research.

To summarize the findings, the results of this thesis provide a positive outlook for Mexican Americans who attain higher levels of education. The reality, as evident in the results, is that a large portion of Mexican Americans continue to struggle in the public education system. Due to major barriers along the path to education, the selection nature of the Mexican American individuals who advance to higher levels education are very few. As a result, these few Mexican American individuals who do make it may be reaping greater benefits due to their small numbers. However, when comparing actual earnings, whites still have an advantage over Mexican Americans and African Americans. Perhaps this difference may be due in part to white individuals commanding higher starting salaries (Simpson 2001). Utilizing additional forms of capital such as cultural and social capital may also contribute to differences in wages and occupation placement.

Because Mexican Americans represent one of the largest waves of new entrants to the labor force in the coming decades, it is imperative that we determine the extent to which they receive similar rewards to their human capital investments as do members of other racial and ethnic groups. Currently, Mexican Americans do not fare well with respect to education attainment. Some factors associated with low levels of education include enrollment in vocational rather than academic or college-bound tracks and segregation in schools. These factors reflect the need to amend the structural forces that perpetuate inequality. Currently, Mexican Americans are overrepresented in menial occupations yielding low-wages with little to absolutely no possibility of advancement (Perez and De La Rosa 1993). Success in the educational institution can alter the course on which many Mexican Americans find themselves. The results of this study suggest that rewards in the labor market await Mexican Americans who attain higher education.

There are several policy recommendations that can help improve the educational and economic future of Mexican Americans. First, there is a need to develop formal positions in the education system that can bridge the gap between research and praxis (Hallinan 1996). The results in this study suggest that a college degree provides the best overall returns on education for Mexican Americans. Because Mexican Americans have the highest percentage of high school dropouts, this becomes a major hurdle. Therefore, additional research and recommendations for improving the chances of receiving a high school diploma are in order. Thus formal positions for research interpretation and praxis may produce greater results in high school completion rates. Additional recommendations involve offering support for social integration and membership of

minorities in academic and organizations that may lead to success in the academic and professional worlds (Mayo, Murguia, and Padilla 1995).

Despite the important findings represented here, this study does have its limitations. The use of the 2000 5% PUMS Census data only provides a cross-sectional representation of the ethnic groups studied in this thesis. To determine if indeed the wage gap is decreasing across race and ethnicity in time, a longitudinal approach would be welcomed. Additionally, this study is limited in scope to individuals who are native born, 25 years and older and working who worked 1,040 hours or more in the 1999 calendar year. Therefore the study can only be generalized to individuals characterized with these selected criteria. Factors controlling for multiple jobs and wealth were not included in the study.

Future research in this area would benefit from additional qualitative work. Because of the special case of Mexican Americans, a limiting factor using census data is that the data do not have information on psychological factors which may influence education attainment. For example, anxieties or social factors may deter further human capital endowments. Furthermore, additional variables not found in the Census data limit our understanding of what may be happening at the professional level with minorities. Therefore, additional variables which take into account the context in which Mexican Americans and other minorities are working should be included in future research. It could be the case that Mexican Americans with professional degrees, i.e., lawyers, dentists, etc., are indeed reaping lower rewards compared to whites based on clientele or non-profit work. Finally, the occupation prestige model for both males and

females explained only a small percentage of the variance with selected independent variables. To arrive at a better understanding and prediction of occupation prestige status, additional variables are needed in the model.

REFERENCES

Ainsworth-Darnell, James W. and Douglas B. Downey. 1998. "Assessing the Oppositional Culture Explanation for Racial/Ethnic Differences in School Performance." *American Sociological Review* 63:536-53.

Alba, Richard. 1999. "Immigration and the American Realities of Assimilation and Multiculturalism." *Sociological Forum* 14:3-25.

Barringer, Herbert R., David T. Takeuchi, and Peter Xenos. 1990. "Education, Occupationla Prestige, and Income of Asian Americans." *Sociology of Education* 63:27-43.

Bean, Frank D. and Gillian Stevens. 2003. *America's Newcomers and the Dynamics of Diversity*. New York: Russell Sage Foundation.

Beck, E. M., Patrick M. Horan, and Charles M. II Tolbert. 1980. "Industrial Segmentation and Labor Market Discrimination." *Social Problems* 28:113-30.

Becker, Gary S. 1964. *Human Capital: A Theoretical and Empirical Analysis, With Special Reference to Education*. New York: Columbia University Press.

Bershady, Harold J. 1970. "On Davis and Moore Again, or: Dissensus and the Stability of Social Systems." *The British Journal of Sociology* 21:446-54.

Bonacich, Edna. 1972. "A Theory of Ethnic Antagonism: The Split Labor Market." *American Sociological Review* 37:547-59.

Borjas, George J. 1987. "Immigrants, Minorities, and Labor Market Competition." *Industrial and Labor Relations Review* 40:382-92.

Catanzarite, Lisa. 2003. "Race-Gender Composition and Occupational Pay Degradation." *Social Problems* 50:14-37.

Catanzarite, Lisa and Michael Bernabe Aguilera. 2002. "Working with Co-Ethnics: Earnings Penalties for Latino Immigrants at Latino Jobsites." *Social Problems* 49:101-27.

Chiswick, Barry R. 1977. "Sons of Immigrants: Are They at an Earnings Disadvantage?" *The American Economic Review* 67:376-80.

—. 1978. "The Effect of Americanization on the Earnings of Foreign-Born Men." *The Journal of Political Economy* 86:897-921.

Davila, Alberto and Marie T. Mora. 2001. "Hispanic Ethnicity, English-Skill Investments, and Earnings." *Industrial Relations* 40:383-88.

Davis, Kingsley and Wilbert E. Moore. 1945. "Some Principles of Stratification." *American Sociological Review* 10:242-49.

Dodoo, F. Nii-Amoo and Gonzalo Pinon. 1994. "Earnings Differences among the Mexican-Origin Population in the United States: Nativity and Citizenship Explanations." *Sociological Perspectives* 37:293-305.

Espino, Rodolfo and Michael M. Franz. 2002. "Latino Phenotypic Discrimination Revisited: The Impact of Skin Color on Occupational Status." *Social Science Quarterly* 83:612-22.

Espinoza-Herold, Mariella. 2003. *Issues in Latino Education: Race, School Culture, and the Politics of Academic Success*. Boston, MA: Pearson Education Group, Inc.

Hallinan, Maureen T. 1996. "Bridging the Gap between Research and Practice." *Sociology of Education* 69:131-34.

Kao, Grace and Jennifer S. Thompson. 2003. "Racial and Ethnic Stratification in Educational Achievement and Attainment." *Annual Review of Sociology* 29:417-42.

Kalleberg, Arne L. and Aage B. Sorensen. 1979. "The Sociology of Labor Markets." *Annual Review of Sociology* 5:351-79.

Kmec, Julie A. 2003. "Minority Job Concentration and Wages." *Social Problems* 50:38-59.

Mason, Patrick L. 2001. "Annual Income and Identity Formation among Persons of Mexican Descent." *The American Economic Review* 91:178-83.

Mayo, Judith R., Murguia Edward, and Raymond V. Padilla. 1995. "Social Integration and Academic Performance Among Minority University Students." *Journal of College Student Development* 36:542-52.

Mincer, Jacob. 1958. "Investment in Human Capital and Personal Income Distribution." *The Journal of Political Economy* 66:281-302.

Murguia, Edward and Edward E. Telles. 1996. "Phenotype and Schooling among Mexican Americans." *Sociology of Education* 69:276-89.

Murphy, Kevin and Finis Welch. 1989. "Wage Premiums for College Graduates: Recent Growth and Possible Explanations." *Educational Researcher* 18:17-26.

Nam, Charles B. and Monica Boyd. 2004. "Occupational Status in 2000: Over a Century of Census-Based Measurement." *Population Research and Policy Reviewe* 23:327-58.

Pachon, Harry P. and Joan W. Moore. 1981. "Mexican Americans." *Annals of the American Academy of Political and Social Science* 454:111-24.

Paternoster, Raymond, Robert Brame, Paul Mazerolle, and Alex Piquero. 1998. "Using the Correct Statistical Test for the Equality of Regression Coefficients." *Criminology* 36:859-66.

Perez, Sonia M. and Denise De La Rosa Salazar. 1993. "Economic, Labor Force, and Social Implications of Latino Education and Population Trends." *Hispanic Journal of Behavioral Sciences* 15:188-229.

Raymond, Richard and Michael Sesnowitz. 1983. "Labor Market Discrimination against Mexican American College Graduates." *Southern Economic Journal* 49:1122-36.

Reich, Michael, David M. Gordon, and Richard C. Edwards. 1973. "A Theory of Labor Market Segmentation." *The American Economic Review* 63:359-65.

Roscigno, Vincent J. 2000. "Family/School Inequality and African American/Hispanic Achievement." *Social Problems* 47:266-90.

Rumberger, Russell W. 1984. "The Job Market for College Graduates, 1960-90." *The Journal of Higher Education* 55:433-54.

Saenz, Rogelio. 2000. "Earnings Patterns of Mexican Workers in the Southern Region: A Focus on Nonmetro/Metro Distinctions." *Southern Rural Sociology* 16:60-95.

Saenz, Rogelio and Cristina M. Morales. 2005. "Demography of Race and Ethnicity." Pp. 169-208 in *The Handbook of Population*, edited by D. L. Poston Jr. and M. Micklin. New York: Klewer Academics, Plenum Publishers.

Sakamoto, Arthur and Meichu D. Chen. 1991. "Inequality and Attainment in a Dual Labor Market." *American Sociological Review* 56:295-308.

Schmid, Carol L. 2001. "Educational Achievement, Language-Minority Students, and the New Second Generation." *Sociology of Education* 74:71-87.

Shackett, Joyce R. and John M. Trapani. 1987. "Earnings Differentials and Market Structure." *The Journal of Human Resources* 22:518-31.

Simpson, Jacqueline C. 2001. "Segregated by Subject: Racial Differences in the Factors Influencing Academic Major Between European Americans, Asian Americans, and African, Hispanic, and Native Americans." *The Journal of Higher Education* 72:63-100.

Swinton, David H. 1975. "Factors Affecting the Future Economic Prospects of Minorities." *The American Economic Review* 65:53-58.

—. 1977. "A Labor Force Competition Theory of Discrimination in the Labor Market." *The American Economic Review* 67:400-04.

Telles, Edward E. and Edward Murguia. 1990. "Phenotypic Discrimination and Income Differences among Mexican Americans." *Social Science Quarterly* 71:682-96.

Tienda, Marta. 1983. "Market Characteristics and Hispanic Earnings: A Comparison of Natives and Immigrants." *Social Problems* 31:59-72.

Tienda, Marta and Haya Stier. 1996. "Generating Labor Market Inequality: Employment Opportunities and the Accumulation Disadvantage." *Social Problems* 43:147-65.

Trainer, Evelina. 1988. "English Language Proficiency and the Determination of Earnings among Foreign-Born Men." *The Journal of Human Resources* 23:108-22.

Trejo, Stephen J. 2003. "Intergenerational Progress of Mexican-Origin Workers in the U.S. Labor Market." *The Journal of Human Resources* 38:467-89.

Warren, John Robert. 1996. "Educational Inequality among White and Mexican-Origin Adolescents in the American Southwest: 1990." *Sociology of Education* 69:142-58.

U.S. Census Bureau, Census 2000 5% Public Use Microdata Sample (PUMS) Codebook. Retrieved July 17, 2006 (http://www.census.gov/prod/cen2000/doc/pums.pdf).

U.S. Census Bureau 2000, Summary File 2 (SF 2) and Summary File 4 (SF 4). U.S. Census Bureau, Washington D.C. Retrieved August 16, 2006 (http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en)

Supplemental Readings

Ainsworth, James W. and Vincent J. Roscigno. 2005. "Stratification, School Work Linkages and Vocational Education." *Social Forces* 84:257-84.

Carnoy, Martin. 1996. "Education and Racial Inequality: The Human Capital Explanation Revisited." *Economics of Education Review* 15:259-72.

Chubb, John E. and Terry M. Moe. 1988. "Politics, Markets, and the Organization of Schools." *American Political Science Review* 82:1065-87.

Cummings, Scott. 1980. "White Ethnics, Racial Prejudice, and Labor Market Segmentation." *The American Journal of Sociology* 85:938-50.

D'Amico, Thomas F. 1987. "The Conceit of Labor Market Discrimination." *The American Economic Review* 77:310-15.

Enchautegui, Maria E. 1998. "Low-Skilled Immigrants and the Changing American Labor Market." *Population and Development Review* 24:811-24.

Farkas, George, Paula England, Keven Vicknair, and Barbara Stanek Kilbourne. 1997. "Cognitive Skill, Skill Demands of Jobs, and Earnings among Young European American, African American, and Mexican American Workers." *Social Forces* 75:913-40.

Fuller, Rex D. 1987. "Occupational Prestige and Changing Higher Educational Policy." *The Social Science Journal* 24:17-30.

Hauser, Robert M. and David L. Featherman. 1973. "Trends in the Occupational Mobility of U.S. Men, 1962-1970." *American Sociological Review* 38:302-10.

Orazem, Peter F. and J. Peter Mattila. 1991. "Human Capital, Uncertain Wage Distribution, and Occupational and Educational Choices." *International Economic Review* 32:103-22.

Reimers, Cordelia W. 1983. "Labor Market Discrimination Against Hispanic and Black Men." *The Review of Economics and Statistics* 65:570-79.

Veum, Jonathan R. 1999. "Training, Wages, and the Human Capital Model." *Southern Economic Journal* 65:526-38.

Wegener, Bernd. 1992. "Concepts and Measurements of Prestige." *Annual Review of Sociology* 18:253-80.

Xu, Wu and Ann Leffler. 1992. "Gender and Race Effects on Occupational Prestige, Segregation, and Earnings." *Gender & Society* 6:376-92.

VITA

Name: Misael Obregón

Address: Department of Sociology
Mail Stop 4351
Texas A&M University
College Station, TX 77843-4351
Email: misael@tamu.edu

Education: B.S., Sociology, Texas State University – San Marcos, 1999

Professional Experience:

Graduate Research Assistant for the Director of the Mexican American/U.S. Latino Research Center (MALRC) at Texas A&M Unviersity, 2005-2007

Publications:

Saenz, Rogelio, Misael Obregón, and Beverly Pratt. 2007. "Latino National Political Survey," *International Encyclopedia of the Social Sciences, 2nd Edition*. McMillan References USA.

Articles in Progress:

Murguia, Edward and Misael Obregón. "From Colorism to Presentation: The Case of the Mexican Americans with an African American Contrast."

Obregón, Misael. "Preselección o Predestinación: Análisis Comparativo Entre Pocahontas y Mariana "La Malinche."

Obregón, Misael. "New Immigrant Destinations: The Role of IRCA in Clandestine Moves"

Presentations:

Obregón, Misael. 2005. "Occupation Prestige Returns to Education: The Case of Latinos." Southwestern Sociological Association Annual Meeting, New Orleans, LA.

Obregón, Misael and Waren, Warren. 2005. "Origins and Destinations of Migrants from the Mexican Migration Project." Poster presentation at the National Autonomous University of Mexico (U.N.A.M.), Mexico City, Mexico.

Edward Murguia and Misael Obregón. 2007. "Measures of Class, Measures of Well Being for Latinos." Siglo XXI: Economies of Class, Economies of Culture. The Inter-University Program for Lation Research (IUPLR) Biennial Conference, Austin, TX.